

Portage County, WI
Portage County Groundwater Management Plan
Contact: Water Quality Specialist
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Zoning Ordinance
Draft

Notes: A regional approach. Ideally all five communities and the county will adopt regulations to protect their aquifer. The aquifer ranges from unconsolidated to bedrock.

APPENDIX C Wellhead Protection Ordinance

This appendix includes possible language for a groundwater protection overlay district for incorporation into the Portage County Zoning Ordinance. This model was developed based on a review of the current Portage County Zoning Ordinance and examples of this type of regulatory approach, including Clark County, Virginia (Hrezo and Nickinson, 1986), Town of Holliston, Massachusetts (Hrezo and Nickinson, 1986), a model developed by the Tri-County Regional Planning Commission, Lansing, Michigan (DiNovo and Jaffe, 1984), Spokane County, Washington (DiNovo and Jaffe, 1984), and the Town of Rib Mountain, Wisconsin (1985). The final regulatory measures adopted should address the site specific protection needs in relation to the area delineated for wellhead protection. Following the ordinance are a set of maps delineating potential groundwater protection districts based on the generalized criteria discussed in requirements for sewer and unsewered areas are contained in Appendix D.,

Note that this model ordinance has been codified for incorporation into the existing County Zoning Ordinance. Some section references, therefore pertain to unlisted portions of the existing County Ordinance. Section 6.6.2(A)(3) of the existing code contains general zoning permit application requirements, and Section 6.6.5 describes zoning action appeals to the Board of Adjustment.

SECTION VII Groundwater Protection Overlay District

6.7.1. Purpose

The County Board of Portage County recognizes that the people of Portage County depend exclusively on groundwater for a safe drinking water supply and that certain land uses in the Portage County environmental setting can seriously degrade water quality. Therefore, the designated best use of the unconfined groundwater of Portage County is for public and private water supply and it is the policy of the county to maintain its groundwater resources as near to the natural condition of purity as reasonably possible for the safeguarding of the public health, safety, and welfare.

The purpose of the Groundwater protection Overlay District is to protect key groundwater recharge areas by imposing appropriate land use restrictions in these areas. Wisconsin Act 410, 1983, specifically includes groundwater protection among the purposes for which local zoning power may be exercised. The restrictions included herein are in addition to those of the underlying zoning districts or any other provisions of the zoning or other County ordinance.

6.7.2. Designation of Municipal or Private Well Field Groundwater Protection Zones

The boundaries for the groundwater recharge protection zones for the Groundwater Protection Overlay District are as shown on the map "Groundwater protection District for Portage County Wells Fields" dated _____. Said map is hereby adopted by reference becoming a part of this ordinance as if the map were fully described herein. The groundwater recharge basins for the designated well fields are divided into three zones reflecting the potential for land use activities to adversely impact the well fields and the subsequent scope of land use restrictions needed.

6.7.3. Zone A - Groundwater Protection Overlay District

(A) Intent. Zone A is the immediate area around the well field, commonly known as the cone of depression, in which groundwater elevations are lowered by pumping. This area is subject to the higher contaminant threat, and therefore, the land use restrictions are the most severe on the recharge zones.

(B) Uses. The following uses are permitted:

- (1) Parks/playgrounds.
- (2) Archery ranges.
- (3) Boat landings.
- (4) Other natural uses-
 - wildlife areas
 - wild crops
 - non-motor trails, (bike, skiing, nature, fitness)
 - hunting/fishing/trapping

Special Exception Users. The following uses are permitted upon proper application as provided in this ordinance particularly items (a) and (b) of Subparagraph 6.6.2 (A)(3), only after such use shall have been approved in writing by the board of Adjustment, after public hearing. Such approval shall be consistent with the general purpose and intent of this ordinance and shall be based upon evidence as may be presented at such public hearing, tending to show the desirability of specific uses from the standpoint of the public interest because of such factors as (without limitation because of enumeration) groundwater pollution, smoke, dust, noxious or toxic gases and odors, noise, glare, vibration, operation of heavy machinery, heavy vehicular traffic, increased traffic on the streets with the plan approved by the Board of Adjustment and shall meet the specific conditions attached below and such other conditions as the Board of Adjustment deems necessary in furthering the purpose of this ordinance.

- (1) Residential.
- (2) Forestry plantations.
- (3) Fishery production facility.
- (4) Campgrounds.

Prohibited Uses. The following uses are expressly prohibited in this zone:

- (1) All uses not permitted or special exception in this section.

Performance Standards. The following standards apply to all uses in Zone A of the Groundwater Protection Overlay District.

- (1) On-site sanitary system with any type of discharge-Prohibited. Municipal sewer required.
- (2) Underground tanks-Prohibited.
- (3) Natural Vegetation not treated with fertilizers and pesticides-A minimum of 85% of lot must be retained in natural vegetation.
- (4) Lot size-___ acres per residential unit with municipal sewer. Multiple family units and cluster developments may increase density by 50% if restrictive covenant maintains natural vegetation requirement.
- (5) Pesticide/fertilizer storage and use (including septage and sludge landspreading)-Prohibited except for normal home use and by special case-by-case review.
- (6) Animal waste facility or landspreading-Prohibited.
- (7) Stormwater and drain discharge-Direct subsurface drainage prohibited. Discharge of hazardous materials prohibited. All surface runoff and drain construction must provide a means for collection or containment in the event of a hazardous materials spill.
- (8) Salt storage-Prohibited.
- (9) Hazardous/toxic materials storage and use-Prohibited except for normal home use.
- (10) Hazardous/toxic waste-on-site treatment, transfer, or disposal prohibited

6.7.3. Zone A - Groundwater Protection Overlay District

(A) Intent. Zone A is the immediate area around the well field, commonly known as the cone of depression, in which groundwater elevations are lowered by pumping. This area is subject to the higher contaminant threat, and therefore, the land use restrictions are the most severe on the recharge zones.

(B) Uses. The following uses are permitted:

- (1) Parks/playgrounds.
- (2) Archery ranges.
- (3) Boat landings.
- (4) Other natural uses-
 - wildlife areas
 - wild crops
 - non-motor trails, (bike, skiing, nature, fitness)
 - hunting/fishing/trapping

Special Exception Users. The following uses are permitted upon proper application as provided in this ordinance particularly items (a) and (b) of Subparagraph 6.6.2 (A)(3), only after such use shall have been approved in writing by the board of Adjustment, after public hearing. Such approval shall be consistent with the general purpose and intent of this ordinance and shall be based upon evidence as may be presented at such public hearing, tending to show the desirability of specific uses from the standpoint of the public interest because of such factors as (without limitation because of enumeration) groundwater pollution, smoke, dust, noxious or toxic gases and odors, noise, glare, vibration, operation of heavy machinery, heavy vehicular traffic, increased traffic on the streets with the plan approved by the Board of Adjustment and shall meet the specific conditions attached below and such other conditions as the Board of Adjustment deems necessary in furthering the purpose of this ordinance.

- (1) Residential.
- (2) Forestry plantations.
- (3) Fishery production facility.
- (4) Campgrounds.

Prohibited Uses. The following uses are expressly prohibited in this zone:

- (1) All uses not permitted or special exception in this section.

Performance Standards. The following standards apply to all uses in Zone A of the Groundwater Protection Overlay District.

- (1) On-site sanitary system with any type of discharge-Prohibited. Municipal sewer required.
- (2) Underground tanks-Prohibited.
- (3) Natural Vegetation not treated with fertilizers and pesticides-A minimum of 85% of lot must be retained in natural vegetation.
- (4) Lot size-___ acres per residential unit with municipal sewer. Multiple family units and cluster developments may increase density by 50% if restrictive covenant maintains natural vegetation requirement.
- (5) Pesticide/fertilizer storage and use (including septage and sludge landspreading)-Prohibited except for normal home use and by special case-by-case review.
- (6) Animal waste facility or landspreading-Prohibited.
- (7) Stormwater and drain discharge-Direct subsurface drainage prohibited. Discharge of hazardous materials prohibited. All surface runoff and drain construction must provide a means for collection or containment in the event of a hazardous materials spill.
- (8) Salt storage-Prohibited.
- (9) Hazardous/toxic materials storage and use-Prohibited except for normal home use.
- (10) Hazardous/toxic waste-on-site treatment, transfer, or disposal prohibited

6.7.4 Zone B - Groundwater Protection Overlay District

(A) Intent. Zone B is the recharge area upgradient of Zone A to the point where it is estimated that groundwater and contaminants will take 5 years to reach the pumping well(s). This is an intermediate zone and land use measures are slightly less restrictive than Zone A because of the longer flow times and greater contaminant dilution and attenuation potential..

(B) Uses. The following uses are permitted:

- (1) Residential.
- (2) Parks/playgrounds.
- (3) Shooting ranges.
- (4) Boat landings.
- (5) Natural uses-
 - wildlife areas
 - wild crops
 - non-motor trails, (bike, skiing, nature, fitness)
 - hunting/fishing/trapping

Special Exception Users. The following uses are permitted upon proper application as provided in this ordinance particularly items (a) and (b) of Subparagraph 6.6.2 (A)(3), only after such use shall have been approved in writing by the Board of Adjustment, after public hearing. Such approval shall be consistent with the general purpose and intent of this ordinance and shall be based upon evidence as may be presented at such public hearing, tending to show the desirability of specific uses from the standpoint of the public interest because of such factors as (without limitation because of enumeration) groundwater pollution, smoke, dust, noxious or toxic gases and odors, noise, glare, vibration, operation of heavy machinery, heavy vehicular traffic, increased traffic on the streets with the plan approved by the Board of Adjustment and shall meet the specific conditions attached below and such other conditions as the Board of Adjustment deems necessary in furthering the purpose of this ordinance.

(1) All uses not permitted or special exception in this section.

(D) Prohibited users. The following uses are expressly prohibited in this zone:

- (1) Landfills.
- (2) Feedlots.
- (3) Wastewater treatment facilities.
- (4) Junkyards.
- (5) Gas stations/garages.
- (6) Toxic/hazardous waste facilities.
- (7) Radioactive waste facilities.
- (8) Bulk fertilizer/pesticide manufacturing.
- (10) Chemical manufacture/storage/sale.
- (11) Dry cleaning facilities.

- (12) Electroplating facilities.
- (13) Extermination shops.
- (14) Paint/coating manufacturing.
- (15) Printing/publishing facilities.
- (16) All uses requiring use or storage of hazardous or toxic materials.

(E) Performance Standards. The following standards apply to all uses in Zone B or the Groundwater Protection Overlay District.

- (1) On-site sanitary system with any type of discharge-For residential use: one system per ___ acres, for other uses: 75 gal per acre per day.
- (2) Underground tanks-Tanks less than 500 gal are prohibited, other tank installations require monitoring wells, overflow prevention, corrosion resistant construction, monthly reports and inspections, and spill/leak contingency plan.
- (3) Natural Vegetation not treated with fertilizers and pesticides-A minimum of 80% of lots with on-site sewage disposal must be retained in natural vegetation. A minimum of 60% of lots with municipal sewer must be retained in natural vegetation.
- (4) Lot size for residential users-___ acres per unit with municipal sewer, or ___m acres with on-site sewage disposal. Multiple family and cluster developments may increase density by 50% if restrictive covenant maintains natural vegetation requirement in sewered areas or increases area of natural vegetation by 10% over minimum requirement in unsewered areas.
- (5) Lot size for other uses-___ acre minimum subject to (a) above.
- (6) Pesticide/fertilizer storage and use (including septage and sludge landspreading)-Prohibited except for normal home use or where an agricultural best management practices plan approved by the County Land Conversation Department guides usage.
- (7) Animal waste facility or landspreading-Waste facilities must be permitted under the Portage County Animal Waste Management Ordinance. A best management practices plan must be approved by the County Land Conservation Department for landspreading.
- (8) Stormwater and drain discharge-District subsurface drainage prohibited. Discharge of hazardous materials prohibited. All surface runoff and drain construction must provide a means for collection or containment in the event of a hazardous materials spill.
- (9) Salt storage-prohibited.
- (10) Hazardous/toxic materials storage and use-Prohibited except for normal home use (also see 6 above).
- (11) Hazardous/toxic waste-On-site treatment, transfer, or disposal prohibited.

6.7.5 Zone C Groundwater Protection Overlay District

(A) Intent. Zone C is the remainder of the recharge basin upgradient of Zone B, and includes surface water basins that may contribute to well recharge. Management measures are the least restrictive of the recharge zones

(b) Uses. The following users are permitted uses:

(1) All uses not prohibited or special exception in this section..

Special Exception Users. The following uses are permitted upon proper application as provided in this ordinance particularly items (a) and (b) of Subparagraph 6.6.2 (A)(3), only after such use shall have been approved in writing by the Board of Adjustment, after public hearing. Such approval shall be consistent with the general purpose and intent of this ordinance and shall be based upon evidence as may be presented at such public hearing, tending to show the desirability of specific uses from the standpoint of the public interest because of such factors as (without limitation because of enumeration) groundwater pollution, smoke, dust, noxious or toxic gases and odors, noise, glare, vibration, operation of heavy machinery, heavy vehicular traffic, increased traffic on the streets with the plan approved by the Board of Adjustment and shall meet the specific conditions attached below and such other conditions as the Board of Adjustment deems necessary in furthering the purpose of this ordinance.

- (1) Landfills.
- (2) Feedlots.
- (3) Wastewater treatment facilities.
- (4) Junkyards.
- (5) Gas stations/garages.
- (6) Bulk fertilizer/pesticide facilities.
- (7) Asphalt products manufacture.
- (8) Chemical manufacture/storage/sale.
- (9) Dry cleaning facilities.
- (10) Electroplating facilities.
- (11) Extermination shops.
- (12) Paint/coating manufacturing.
- (13) Printing/publishing facilities.
- (14) Septage/sludge landspreading.
- (15) Animal waste facilities.
- (16) Spray wastewater facilities.

(D) Prohibited Uses. The following uses are prohibited in this zone:

- (1) Toxic waste facilities.
- (2) Radioactive waste facilities.

(E) Performance Standards. The following standards apply to all uses in Zone C of the Groundwater Protection Overlay District.

- (1) On-site sanitary system with any type of discharge-For residential use: one system per ____ acres, for other uses: 200 gal per acre per day.
- (2) Underground tanks-Tank installations require overflow prevention, corrosion resistant

construction, monthly reports and inspections, and spill/leak contingency plan.

(3) Natural Vegetation not treated with fertilizers and pesticides-A minimum of 65% of all lots must be retained in natural vegetation.

- (4) Lot size for residential- ____ acres per unit with on-site sewage disposal. Multiple family and cluster developments may increase density by 50% if restrictive covenant increase area of natural vegetation by 10% of minimum requirement.
- (5) Lot size for other uses- ____ acre minimum subject to (1) above.
- (6) Pesticide/fertilizer storage and use (including septage and sludge landspreading)-Bulk storage facilities must include groundwater monitoring and reporting as determined by the County Community Human Services Department. Agricultural best management practices strongly encourage.
- (7) Animal waste facility or landspreading-Waste facilities must be permitted under the Portage County Animal Waste Management Ordinance. Agricultural best management practices strongly encouraged.
- (8) Stormwater and drain discharge-Direct subsurface drainage prohibited except for special case-by-case review and approval with groundwater monitoring. Discharge of hazardous materials prohibited.
- (9) Salt storage-Groundwater monitoring required as determined by the County Community Human Services Department.
- (10) Hazardous/toxic materials storage and use-Site plan review required, including description of all materials, operational practices to prevent groundwater contamination, contingency plan for accidental discharges, and a proposed disposal plan for anticipated wastes. Best management practices encouraged.
- (11) Hazardous/toxic wastes-On-site treatment, transfer, or disposal prohibited.

Addition to Section 6.6.3(B) Boundaries of Districts:

The boundaries of the Groundwater Protection Overlay District shall be as shown on the map "Groundwater Protection District for Portage County Well Fields", dated _____. Boundary determinations for specific properties shall be made by the Zoning Administrator by scaling distances from this map. Appeals to this determination shall be made to the Board of Adjustment as provided in Section 6.6.5 , and shall be supported with appropriate technical documentation as determined by the Board of Adjustment. Such documentation shall generally be a hydrogeologic study by a qualified professional that indicates the property in question is out of the designated groundwater recharge area or should be classified in a different recharge area zone.

Additions to Section 6.610 Definitions:

Aquifer-A saturated permeable geologic formation that contains and will yield significant quantities of water.

Recharge Area-The total area relative to a point of groundwater use in which water falling on or discharging to the ground may move via ground or surface waters to that point of use.

Cone of depressions-A roughly conical concavity (or dimple) in the water table (unconfined aquifer) around a pumping well.

Hazardous/toxic substance-Any substance which is ignitable, corrosive, acute hazardous, reactive, EPA toxic, or toxic as defined in the State Code NR181.